

B.E. CIVIL ENGINEERING (PART TIME) SECOND YEAR FIRST SEMESTER EXAM - 2018

Subject: SURVEYING-III

Time: Three Hours

Full Marks: 100 (50 for Part-I)

Part: Part-I

Use a Separate Answer-Script for Each Part

Answer any 3 (Three) questions

2 (Two) Marks Reserved for Neatness and 'To The Point' Answer

1. (a) Explain the 'Topographic Displacement' and 'Displacement Due to Tilt' in relation to Photogrammetry. 8
1. (b) With a neat diagram deduce how the error due to tilt could be expressed as a fraction of the topographic displacement using standard terminologies and symbols. 8
2. (a) With a neat diagram deduce the expression for finding out the height of a cloud from the image of the cloud and its shadow taken from a flight. 10
2. (b) From the deduced expression calculate the cloud height if Height of the Flight = 3000 m; Distance of Object Image to Shadow Image = 15 mm; and Distance of Object Image to No Shadow Point Image = 20 mm. 6
3. (a) With a neat diagram deduce the expression for the displacement in Stereoscopic Pairs (the relation between object height, height of the camera lens from ground and the absolute parallax of the base and top of the object observed through a stereoscope) 12
3. (b) A tree was found to have a parallax difference of 0.5 mm and the absolute parallax of the tree base is 100 mm. Find the flying height if the tree is 20 m high. 4
4. (a) Discuss the major components and their functions of a typical Electronic Distance Measuring Instrument (EDMI) in brief with a suitable diagram. 10
4. (b) With suitable mathematical expressions describe the velocity corrections in relation to EDM. 6

BACHELOR OF CIVIL ENGINEERING (EVENING) EXAMINATION 2018
(Second Year, First Semester)

SURVEYING III

Time: Three Hours

Full Marks 100
(50 marks for each part)

Use a separate Answer-Script for each part

| Question No. | Part II (50 Marks) | Marks |
|---|--|---------|
| Answer any TWO questions out of three from this Part | | |
| 1 | (a) Draw a typical 'spectral reflectance envelope' for deciduous and coniferous type tree. | 10 |
| | (b) Draw a typical 'spectral reflectance curve' for vegetation, soil and water. | 10 |
| | (c) What is the difference between 'spectral reflectance envelope' and 'spectral reflectance curve'? Why this difference occurs? | 5 |
| 2 | (a) Define 'Spectral Response Patterns' and 'Spectral Signature'. | 2x2=4 |
| | (b) What is called reference data in remote sensing? Give three examples of reference data. Which one is most authentic reference data and why? | 3+3+3=9 |
| | (c) What is the utility of reference data in remote sensing? | 3 |
| | (d) Satellite image is raster data or vector data? | 1 |
| | (e) What is called Geographic Information System (GIS)? Explain briefly. | 2 |
| | (f) Compare between Land Survey, Photogrammetry, and Satellite Remote Sensing? | 6 |
| 3 | (a) Explain fundamentals of visual image interpretation and its importance. What are the elements of visual image interpretation? Explain briefly. | 5+10=15 |
| | (b) What is the importance of the temporal aspect of image interpretation? | 5 |
| | (c) What are the different applications of remote sensing in natural resource management? | 5 |